



AirBeam2 Quick Start Guide

Step 1. Open your AirBeam2s and Phones

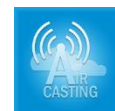
Your kit contains paired sets of AirBeam2s and phones (which use the Android mobile operating system). Each phone comes with a charging block and cord, and each AirBeam comes with a charging cord. The phones can be turned on and off by holding down the smaller button on the right side.

Your AirBeams are already configured and paired with phones. The AirBeam's serial number is labeled on each paired phone and AirBeam, as well as on the boxes (see the orange circles on the image at right). **When you hand the phones and AirBeams out to your students, be sure that each group receives a paired phone and AirBeam.**

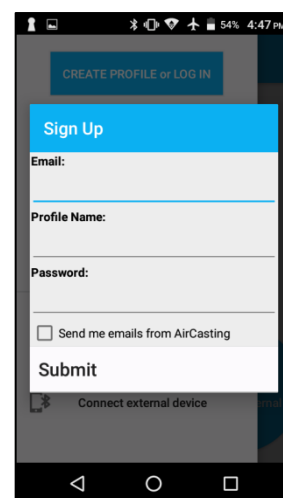


Step 2. Create an AirCasting Account and Log In

Before you start using the sensors for the first time, you need to create an AirCasting account. You will then log in to that account on each phone. This account will be tied to an email address of your choice, and all of your group's AirCasting sessions will be under this account. To create an AirCasting account:



1. Connect your phone to Wi-Fi. Swipe up to unlock the phone. Select the **Settings** icon (⚙️) on the home screen, select **Network & Internet**, and then **Wi-Fi**. Select the appropriate Wi-Fi connection and enter the password. Press the circle icon (○) at the bottom of the phone to return to the home screen.
2. Open the **AirCasting app** (📶).
3. Select Menu (≡) in the upper-left corner, then select **Create Profile or Log in**, and then **Create Profile**.
4. Enter the email address, profile name, and password you want to use. Type your password carefully, because you won't have a chance to review it. Select **Submit**.
 - Passwords must contain both uppercase and lowercase characters, and can (but are not required to) include special characters and numbers.
 - If you are not connected to Wi-Fi, you will get an "Unknown error" message.





After you've created an AirCasting account, log in to the account on all of the phones in your kit. On each phone:

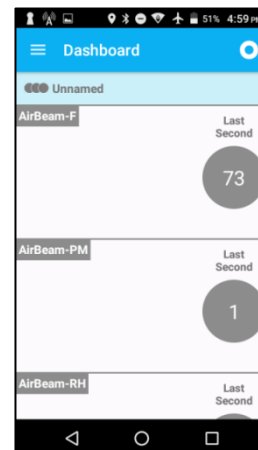
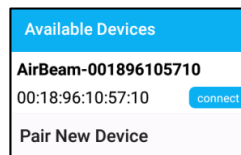
1. Follow **Step 2.1** to connect your phone to Wi-Fi.
2. Open the **AirCasting** app (📶).
3. Select **Menu** (≡), then select **Create a Profile or Log in**, and then **Sign In**. Enter your username or email (either will work), as well as your password, and then select **OK**.
4. If you aren't going to use the phones immediately, turn them off to preserve battery life.

Step 3. Connect Each Phone to Its AirBeam2

Before you use the phones and sensors, make sure they are fully charged. Although we have charged everything before sending your KMS Kit, batteries can discharge over time. When the devices are not in use, turn them off.

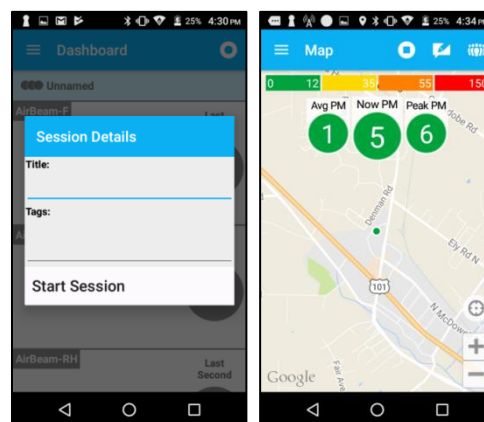
To prepare each phone for an AirCasting session:

1. Turn on the phone and swipe up to unlock the phone.
2. Make sure the phone is connected to Wi-Fi and that Bluetooth is on. If either is turned off, it can be accessed through the **Settings** icon (⚙️).
3. Open the **AirCasting** app (📶).
4. Confirm you are signed in to your AirCasting profile. On the Dashboard screen of the AirCasting app, select Menu (≡). If you see your KMS profile name listed at the top of the screen next to the AirCasting logo, you are logged in.
5. Turn on the AirBeam that is paired with the phone by pressing the large button on the bottom of the AirBeam. Make sure the paired AirBeam and phone are close to each other so that the Bluetooth connection will work. Wait until the red light on the bottom of the AirBeam turns green.
6. Select **Configure AirBeam 2**. Make sure that the AirBeam number on your screen matches the one on the labels on your phone and AirBeam, then select the blue **Connect** button. For Session Type, select **Mobile**.
7. Once the phone and AirBeam are connected, the light on the bottom of the AirBeam will turn silver. Gray circles will appear on the main screen of the **AirCasting** app.
8. *If your phone registers an error with the **AirCasting** app, or if the phone and AirBeam do not successfully connect, turn off the AirBeam. If the **AirCasting** app is still open, press the square icon (◻️) on the bottom of your screen, and select **Clear All**; this will force close the app. Turn off the phone, and retry Steps 3.1 through 3.7.*



Step 4. Start AirCasting!

1. To make sure that the map will appear on the phone as you walk around with the sensor, on the **AirCasting app's** dashboard, **press the three circle icons next to the word Unnamed** (●●●), and then select **Map**. This will give the app a chance to locate the phone on the map, and will make the AirCasting session a lot more fun. After the map has loaded, press the bullseye icon (📍) in the lower right of the screen to center the map on your location.
2. If you will be walking in areas without access to your Wi-Fi network, go to the phone's **Settings** app (⚙️) and turn the Wi-Fi off.
3. Press the **Recording Button** (🔴) at the top of the Dashboard page. Add a title for your session (this title will be publicly viewable on the Kids Making Sense website), and add tags or a description if you'd like. Press the triangle icon (◀️) at the bottom of the phone to collapse the keyboard. Press **Start Session**. The gray circles in the AirCasting app will become colored, which shows you're recording a session.
4. The map will only display one parameter at a time (PM₁, PM₁₀, PM_{2.5}, temperature in Fahrenheit, or humidity), but will record all parameters in the background. To change the display, press one of the three circles (**Avg**, **Now**, or **Peak**) and scroll between the options. For this exercise, you will likely want your students to view PM_{2.5}.
5. As you're walking around, you can use the app to make notes and add photos of what you're seeing by pressing the **Notepad icon** (📝) at the top of the screen. These notes and photos will be viewable on the website when you view your session later. You can add a photo to your note by selecting **Attach a photo**.
6. At the end of your session, press the **Circle icon** (🔴) to stop recording. The colored circles should become gray again.
7. Turn off your AirBeam to preserve its battery life. Leave your phone on until you have confirmed that your session has synced with the map on maps.kidsmakingsense.org (see instructions in the next section).



While you're walking around with your sensor and phone:

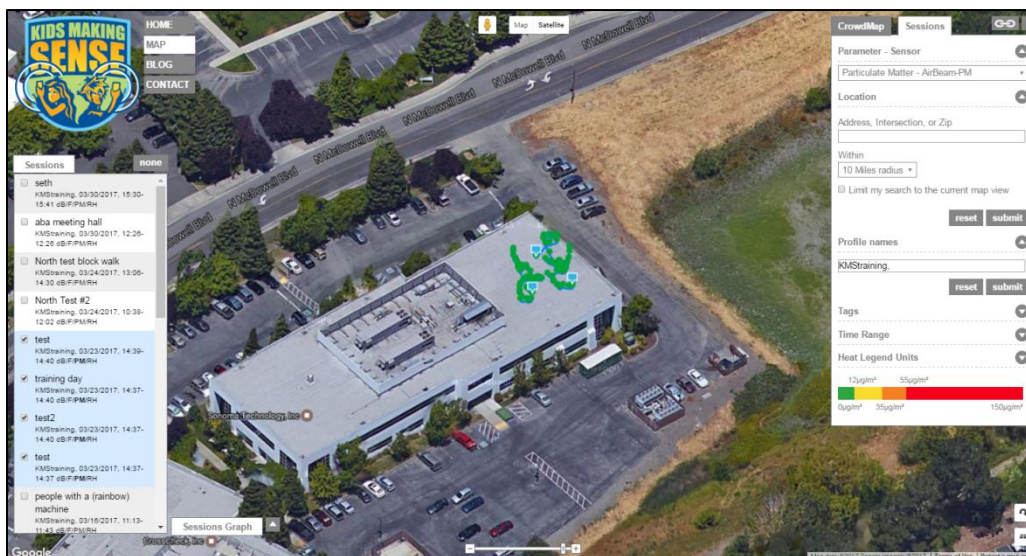
- Don't cover the AirBeam's air inlet or exit, which are both located at the bottom of the device.
- Keep the phone and AirBeam within 10 feet of each other.
- Pay attention to traffic!
- Observe your surroundings and make notes when you see high values.
- If the colored circles or data values turn gray, go back into the Dashboard menu and reconnect your AirBeam and phone. See Step 3.8 if this does not work.



Step 5. View Your Session Map

After you're done recording your session, make sure the phone's Wi-Fi is on (connect to Wi-Fi through the **Settings** app [⚙]). **The session you recorded will only sync to the website when the phone is connected to Wi-Fi.** The syncing process should take a few minutes, but may take up to 20 minutes depending on your Wi-Fi strength.

1. Go to maps.kidsmakingsense.org.
2. In the upper right, select **Sessions**. Under **Parameter – Sensor**, scroll down and select either **Particulate Matter – AirBeam2-PM1**, **Particulate Matter – AirBeam2-PM10**, or **Particulate Matter – AirBeam2-PM_{2.5}** to filter your sessions. Under **Profile names**, type in and select your KMS profile name. Select **Submit**.
3. On the left-hand side of the screen, toggle sessions on and off using the checkbox next to each session.



4. You can view notes and photos from your session by clicking on the note icons on the map.
5. To view a graph of a session, select the session and then select the arrow next to the **Sessions Graph** at the bottom right of the sessions list.

If the sessions are not syncing and the phone is connected to Wi-Fi, in the **AirCasting** app, select **Menu** (≡) and then select **Sessions**. Your latest session should be listed at the top of the page—press it and pull it down the page—if done correctly, this will cause a rotating circle to appear. This means the app is syncing with the KMS map, which may take up to 20 minutes depending on Wi-Fi strength.



Step 6. After AirCasting

Turn the AirBeams and phones off to preserve battery life. Make sure that each phone and AirBeam goes back in the box with the matching label.

Optional Step 7. Retrieve AirCasting Session Data as a .csv File

Your AirCasting session data can be sent via email as a .csv file, allowing you to analyze your data outside of the AirCasting app. To export your AirCasting session data, you will need one of your AirCasting phones, a Wi-Fi connection, and a **Google account**. You can export AirCasting session data from any of your AirCasting phones as long as all of your phones are connected to the same AirCasting account (see Step 2). If you do not have a Google account, go to google.com, select **Sign In**, and then select **Create account**. To export AirCasting session data:

1. Open the **Settings app** on your phone. Select **Users & accounts**, select **Add account**, and then select **Google**. When prompted, enter the email and password for your Google account. Google will ask you to read and agree to their Terms of Services and Privacy Policy.
2. Return to the home screen and open the **AirCasting app**. Select **Menu** (≡), and then select **Sessions**.
3. Select the session you would like to download. Select **Share**, and then **Share File**.
4. Select the **Gmail icon**. This will generate an email with the subject line "FW: View my AirCasting session" and the session data attached as a ZIP file. Enter the email address you would like to send your session data to (you can send the email to any email address, including the Google Gmail account used in Step 7.1). Press the **paper airplane icon** at the top right of the screen to send the email.
5. If your phones are being shared with other teachers and classrooms, you may want to log out of your Google and AirCasting accounts.
 - a. To log out of your Google account, open the **Settings app**. Select **Users & accounts**, and then press **your Google account**. Select **Remove Account**, and then select **Remove Account** again.
 - b. To log out of your AirCasting account, open the **AirCasting app** and select **Menu** (≡). Select your AirCasting account in the upper-left corner, and then press **Sign Out**.